

293. VEHICLE FENDERS

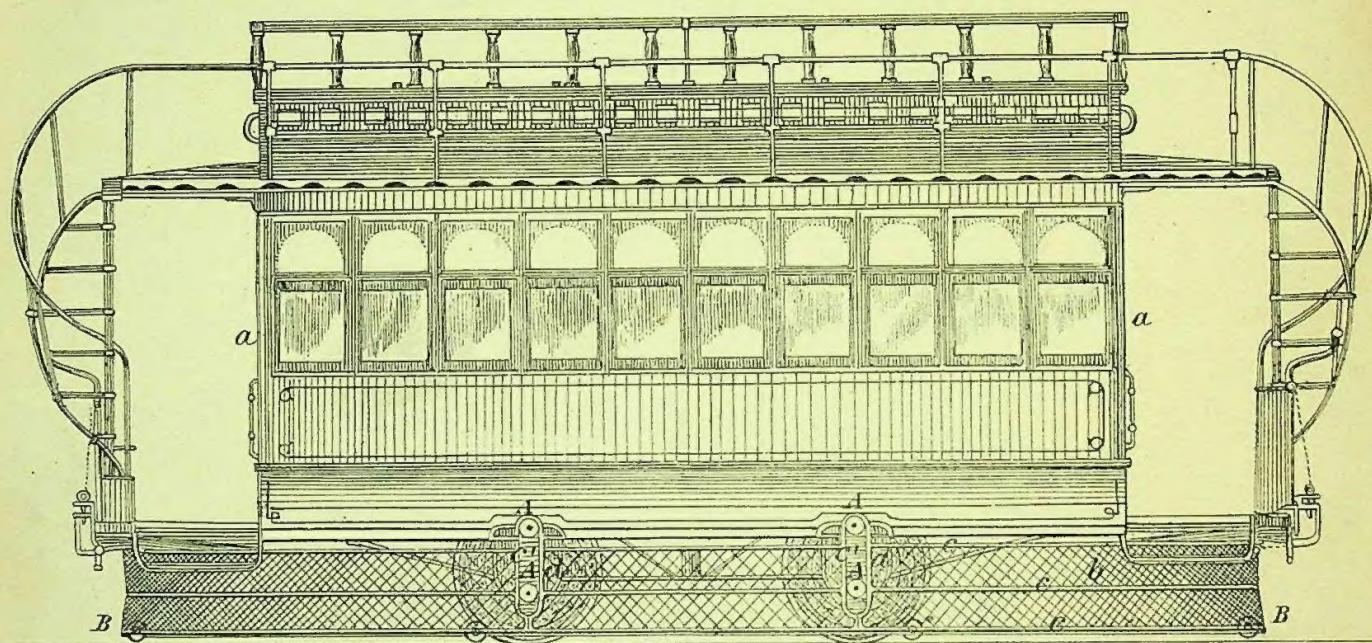
July 1874

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A.D. 1874, 9th JULY. N° 2407.

### Improved Guard for Tramway Cars, &c.

(*This Invention received Provisional Protection only.*)

PROVISIONAL SPECIFICATION left by Alexis Bois at the Office of the Commissioners of Patents, with his Petition, on the 9th July 1874.

I, ALEXIS BOIS, of Brussels, in the Kingdom of Belgium, Civil Engineer, do hereby declare the nature of the said Invention for "AN IMPROVED GUARD OR SAFETY APPARATUS APPLICABLE TO TRAMWAY CARS AND OTHER VEHICLES," to be as follows:—

My Invention relates to an improved guard or safety apparatus applicable to tramway cars and other vehicles, for the purpose of preventing accidents to passengers or others who may fall or be thrown down in the path of the said vehicles, and it consists in covering or enclosing entirely or partially, by a guard or protector, the wheels of the said vehicles and the space between the frame of such vehicles and the rails, thus preventing the possibility of persons falling or rolling under the said cars or vehicles and being injured by the wheels, as frequently happens when the wheels are left unguarded.

The guard or safe apparatus with which I cover or enclose the wheels of tramway cars and other vehicles consists of a shield of sheet metal,

*Bois' Improved Guard for Tramway Cars, &c.*

or a grating of iron or other bars, or a trellis or network of wire or other material affixed to a metal or other frame shaped for the purpose. It is desirable that the said guard or safety apparatus be so connected to the vehicle that its lower edge be constantly at the same distance from the rails and as near the said rails as possible. I therefore mount 5 the said guard upon or suspend it to the axles of the wheels, or by preference to the axle boxes of the said wheels.

When the said guard is supported directly on the axles suitable bearings arranged to support the guard rest upon the said axles. When the guard is supported by the axle boxes each of the said axle boxes, 10 at that part where it projects from the axle guards, is provided with friction rollers, either grooved or flanged, mounted and capable of revolving on axes carried by the said axle box, or by an arm or plate affixed thereto. The said friction rollers are intended to support the said guard and to guide it in any vertical motion that might be communicated accidentally thereto. For this purpose I make in the guard framing vertical slides or slots which fit exactly upon the friction rollers on each axle box, allowing however a certain amount of play or travel below the lower friction rollers. 15

If preferred the arrangement of the friction rollers herein-before 20 described may be inverted, that is to say, the slots or slides may be formed in or on the axle boxes, and the friction rollers may be mounted on the guard frame, or a similar effect may be obtained by means of sliding pieces on the axle box or on the guard frame working in slides formed in the guard frame or axle box respectively, or the said frame 25 may be connected to each of the axle boxes by rods adjusted as in an ordinary link motion.

It will be readily understood that the guard frame being supported or suspended as herein-before described, and being adjusted so that its lower edge is at the required distance above the rails, it will invariably 30 maintain its level as long as the wheels of the car are upon the rails, but should the said wheels from any cause leave the rails, the lower edge of the guard might come in contact with the ground or pavement, and strike against any stones or other obstructions in the way, I therefore mount upon the lower part of the guard frame a certain 35 number of small wheels projecting below the said guard to within a short distance of the rails; the said wheels support the guard when on the ground and roll over any inequalities in the road. The said safety

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guard is made to extend down from near the under part of the frame of the car or vehicle to within a short distance of the rails and the ground, and all round the car or vehicle, passing behind the steps and under the ends of the said vehicle; or one safety guard may be made 5 to cover or enclose the wheels on one side of the car, and another safety guard may be used to cover or enclose the wheels on the other side of the said car; or each wheel may be covered or enclosed separately by one of my safety guards.

Apertures closed by suitable doors may be made in different parts of 10 my safety guards.

The accompanying Drawing represents a guard or safety apparatus constructed according to my Invention, applied to a tramway car. *a, a,* is the car; *b* is the guard, which consists of a network of wire affixed to a metal frame *c, c, c*; *d, d,* are the axle boxes which are 15 provided with rollers *A*, which rollers work in and support and guide the guard *a* by taking into a slot or slide *c<sup>1</sup>* formed by the guard frame *c*; *B, B,* are the small supporting wheels for carrying the guard over the ground, if required.

The Drawing hereunto annexed is intended merely to illustrate one 20 mode of construction of my guard or safety apparatus, and means employed by me in connecting the same to the axle boxes, but the construction of the said guard and the mode of connecting it to the car or vehicle may be varied as herein-before described.

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